



Test report No:  
 NIE: 63185REM.053A1

## Test report

### FCC Rules and Regulations CFR 47, Part 15, Subpart B (10-1-19 Edition) & ICES-003 Issue 6 (Updated 2019-04)

(*) Identification of item tested	Headunit with radio and Bluetooth
(*) Trademark	Panasonic
(*) Model and /or type reference tested	MIB3E_MQB_BTWIFI
Other identification of the product	PN: 575.035.869 HW Version: X01 SW Version: Y150 FCC ID: WUQ-MIB3HBTWIFI IC: 216R-MIB3HBTWIFI
(*) Features	Bluetooth, WLAN, FM, AM, DAB, USB
Manufacturer	PANASONIC AUTOMOTIVE SYSTEMS EUROPE GMBH Robert Bosch Str. 27-29 63225 Langen, GERMANY
Test method requested, standard	FCC CFR 47, Part 15, Subpart B (10-1-19 Edition) & ICES-003 Issue 6 (Updated 2019-04)
Summary	IN COMPLIANCE
Approved by (name / position & signature)	Rafael López EMC Consumer & RF Lab. Manager
Date of issue	2020-12-02
Report template No	FDT08_22 (*) "Data provided by the client"

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## Competences and guarantees

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DEKRA Testing and Certification is a testing laboratory accredited by the National Accreditation Body (ENAC - Entidad Nacional de Acreditación), to perform the tests indicated in the Certificate No. 51/LE 147.

In order to assure the traceability to other national and international laboratories, DEKRA Testing and Certification has a calibration and maintenance program for its measurement equipment.

DEKRA Testing and Certification guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and, it is based on the knowledge and technical facilities available at DEKRA Testing and Certification at the time of performance of the test.

DEKRA Testing and Certification is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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## General conditions

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1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA Testing and Certification.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA Testing and Certification and the Accreditation Bodies.

## Uncertainty

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Uncertainty (factor  $k=2$ ) was calculated according to the DEKRA Testing and Certification internal document PODT000.

The total uncertainty of the measurement system for the measured radio disturbance characteristics of EUT from 30 MHz to 1000 MHz is  $I = \pm 4,9$  dB for quasi-peak measurements,  $I = \pm 4,6$  dB for peak measurements ( $k = 2$ )

The total uncertainty of the measurement system for the measured radio disturbance characteristics of EUT from 1000 MHz to 26 GHz is  $I = \pm 2,6$  dB for peaks and average measurements ( $k = 2$ )

## Data provided by the client

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The following data has been provided by the client:

1. Information relating to the description of the sample ("Identification of the item tested", "Trademark", "Model and/or type reference tested").

The sample consists of an automotive head unit to be installed in cars with the following features: Bluetooth, WLAN, FM, AM, DAB, USB.

DEKRA declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

## Usage of samples

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Samples under test have been selected by: The client.

**Sample S/01** is composed by the following elements:

Control N°	Description	Model	Serial N°	Date of reception
63185/007	Headunit with radio and bluetooth	MIB3E_MQB_BT WIFI	PM6- 00129.04.20413F0213	2020-06-12

Auxiliary elements used with the sample S/01:

Control N°	Description	Model	Serial N°	Date of reception
51929B/117	USB Module	---	---	2018-12-10
51929B/450	Harness	---	---	2019-02-26

## Test sample description

Ports..... :	Port name and description	Cable				
		Specified length [m]	Attached during test	Shielded		
	--		<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		
Supplementary information to the ports..... :						
Rated power supply .....	Voltage and Frequency	Reference poles				
		L1	L2	L3	N	PE
	<input type="checkbox"/> AC:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> DC: 12Vdc						
Rated Power .....	--					
Clock frequencies .....	--					
Other parameters..... :	PN: 575.035.869 FCC ID: WUQ-MIB3HBTWIFI IC: 216R-MIB3HBTWIFI					
Software version .....	Y150					
Hardware version..... :	X01					
Dimensions in cm (W x H x D).... :	--					
Mounting position..... :	<input type="checkbox"/>	Table top equipment				
	<input type="checkbox"/>	Wall/Ceiling mounted equipment				
	<input type="checkbox"/>	Floor standing equipment				
	<input type="checkbox"/>	Hand-held equipment				
	<input checked="" type="checkbox"/>	Other: Automotive head unit				
Modules/parts .....	Module/parts of test item	Type	Manufacturer			
	--					
Accessories (not part of the test item) .....	Description	Type	Manufacturer			
	--					
Documents as provided by the applicant..... :	Description	File name	Issue date			
	--					

### Copy of marking plate:



## Identification of the client

PANASONIC AUTOMOTIVE SYSTEMS EUROPE GMBH  
Robert Bosch Str. 27-29  
63225 Langen, GERMANY

## Testing period and place

Test Location	DEKRA Testing and Certification S.A.U.
Date (start)	2020-06-12
Date (finish)	2020-11-06

## Document history

Report number	Date	Description
63185REM.053	2020-11-20	First release
63185REM.053A1	2020-12-02	The FM reception mode is considered in the definition of the operation modes under test.

## Environmental conditions

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In the control chamber, the following limits were not exceeded during the test:

<b>Temperature</b>	Min. = 15 °C Max. = 35 °C
<b>Relative humidity</b>	Min. = 30 % Max. = 75 %
<b>Air pressure</b>	Min. = 860 mbar Max. = 1060 mbar

In the semianechoic chamber, the following limits were not exceeded during the test.

<b>Temperature</b>	Min. = 15 °C Max. = 35 °C
<b>Relative humidity</b>	Min. = 30 % Max. = 75 %
<b>Air pressure</b>	Min. = 860 mbar Max. = 1060 mbar

In the chamber for conducted measurements, the following limits were not exceeded during the test:

<b>Temperature</b>	Min. = 15 °C Max. = 35 °C
<b>Relative humidity</b>	Min. = 30 % Max. = 60 %
<b>Air pressure</b>	Min. = 860 mbar Max. = 1060 mbar

## Remarks and comments

The test have been performed by the technical personnel: Antonio Sanchez & Abel Gil.

## Testing verdicts

Not applicable :	N/A
Pass :	P
Fail :	F
Not measured :	N/M

## List of equipment used during the test

Control Number	Description	Model	Manufacturer	Next Calibration
2942	EMI TEST RECEIVER 20Hz-40GHz	ESU40	ROHDE AND SCHWARZ	2021-09-17
4523	EMI TEST RECEIVER 20Hz-26.5GHz	ESU26	ROHDE AND SCHWARZ	2022-05-27
4612	HORN ANTENNA 1-18GHz	BBHA 9120 D	SCHWARZBECK MESS-ELEKTRONIK	2021-06-14
4656	HORN ANTENNA 18-40GHz	BBHA 9170	SCHWARZBECK	2021-07-19
4729	PRE-AMPLIFIER G>30dB 18-40GHz	BLMA 1840-1M	BONN ELEKTRONIK	2021-02-11
5641	HYBRID BILOG ANTENNA 30MHz-6GHz	3142E	ETS LINDGREN	2021-07-31
6064	SEMIANECHOIC ABSORBER LINED CHAMBER	SAC-3	Frankonia	---
6126	ETHERNET TEMPERATURE AND HUMIDITY LOGGER	HWg-STE	HW GROUP	2021-04-17
6132	ETHERNET TEMPERATURE AND HUMIDITY LOGGER	HWg-STE	HW GROUP	2021-04-20
6195	PRE-AMPLIFIER G>55dB 1-18GHz	AMF-7D-01001800-22-10P	NARDA	2021-05-19
6329	SHIELDED ROOM		FRANKONIA	---
6666	EMI TEST RECEIVER 2Hz-44GHz	ESW44	ROHDE AND SCHWARZ	2022-02-05
7614	SEMIANECHOIC ABSORBER LINED CHAMBER V	FACT 3 200 STP	ETS LINDGREN	---



## Summary

Emission Test		
Requirement – Test case	Verdict	Remark
Radiated emission test (30 MHz – 1000 MHz)	Pass	--
Radiated emission test (1 GHz – 17 GHz)	Pass	--
Radiated emission test (17 GHz – 26 GHz)	Pass	--
Conducted emission test (150 kHz to 30 MHz)	N/A	See 1
<u>Supplementary information and remarks:</u> 1) The test is not applicable, not required by the standard. Equipment powered by DC		

## Appendix A: Test results

## Appendix A content

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## DESCRIPTION OF THE OPERATION MODES

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The operation modes described in this paragraph constitute a functionality of the sample under test for itself. The operation modes used by the samples to which the present report refers, are shown in the following table:

OPERATION MODE	DESCRIPTION
OM#01	EUT ON. Bluetooth, WiFi 2.4GHz and WiFi 5GHz OFF. USB transferring data (music input). Display showing the playlist. Power supply: 12Vdc.
OM#02	EUT ON. Bluetooth, WiFi 2.4GHz and WiFi 5GHz OFF. FM in reception mode. Display showing the radio station information. Power supply: 12Vdc.

After a preview, it is determined that the work case operation mode is OM#01. The complete results for this mode are included in this report.

## RADIATED EMISSION. ELECTROMAGNETIC FIELD MEASURE

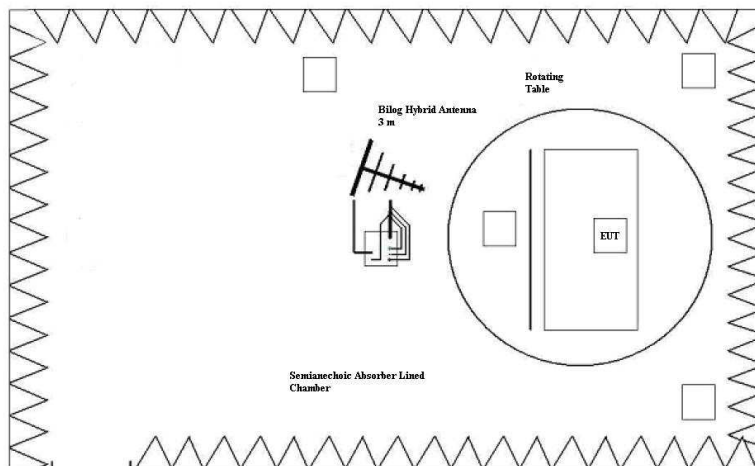
<b>LIMITS:</b>	Product standard:	FCC CFR 47, Part 15, Subpart B (10-1-19 Edition) & ICES-003 Issue 6 (Updated 2019-04)
	Test standard:	FCC CFR 47, Part 15, Subpart B (10-1-19 Edition) & ICES-003 Issue 6 (Updated 2019-04)

### Limits of interference Class B

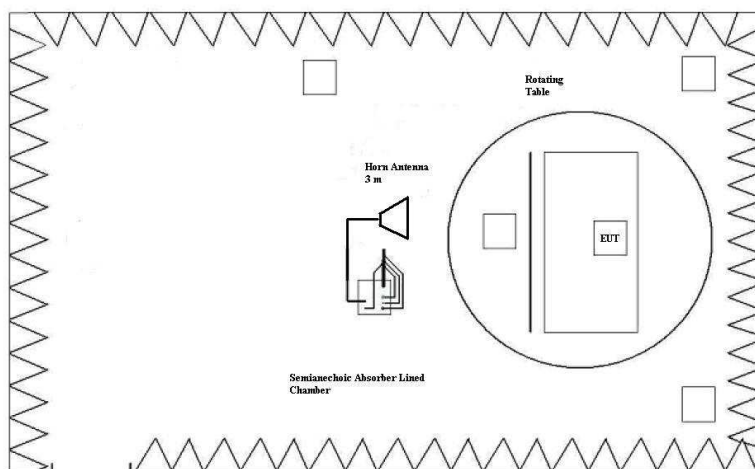
The applied limit for radiated emissions, 3 m distance, according with the requirements of FCC Rules and Regulations 47 CFR Part 15, Subpart B (10-1-19 Edition), Secs. 15.109 & ICES-003 (Updated April 2019) in the frequency range 30 MHz to 26 GHz for class B equipments.

Frequency range (MHz)	QP* Limit for 3 m		PK Limit for 3 m
	( $\mu\text{V/m}$ )	( $\text{dB}\mu\text{V/m}$ )	( $\text{dB}\mu\text{V/m}$ )
30 to 88	100	40	---
88 to 216	150	43.5	---
216 to 960	200	46	---
Above 960	500	54	74

\*Above 1GHz, the limit is defined for an AVG detector.



Setup for measurements < 1GHz.



Setup for measurements > 1GHz.

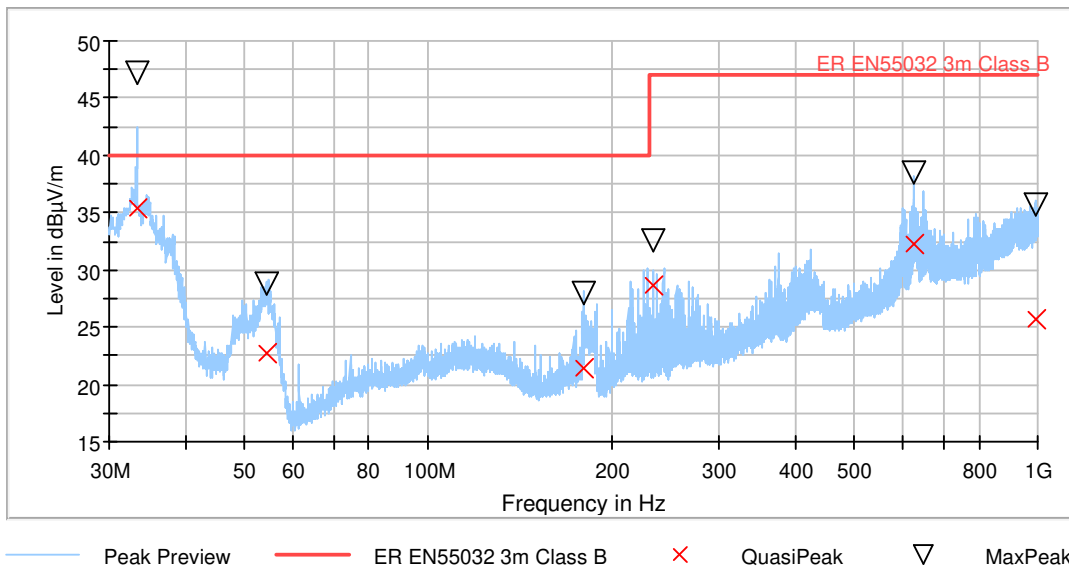
<b>TESTED SAMPLE:</b>	S/01
<b>TESTED OPERATION MODES:</b>	OM#01
<b>TEST RESULTS:</b>	CRmmnnRRPP: CR, Radiated Condition; mm: Sample number; nn: Operation mode; RR: Range; PP: Polarization.

CRmmnnRRPP	Description	Result
CR0101LR	Range: 30 MHz - 1000 MHz.	P
CR0101HR1_HP	Range: 1 GHz – 17 GHz.	P
CR0101HR2_VP	Range: 17 GHz – 26 GHz.	P

**Radiated Emission. CR0101LR**

Project: 63185REM.053  
 Company: PANASONIC AUTOMOTIVE SYSTEMS EUROPE GMBH  
 Sample: S/01  
 Operation mode: OM#01  
 Description: EUT ON. Bluetooth, WiFi 2.4GHz and WiFi 5GHz OFF. USB transferring data (music input). Display showing the playlist. Power supply: 12Vdc.

**FCC Part 15 Class B**



**Maximizations**

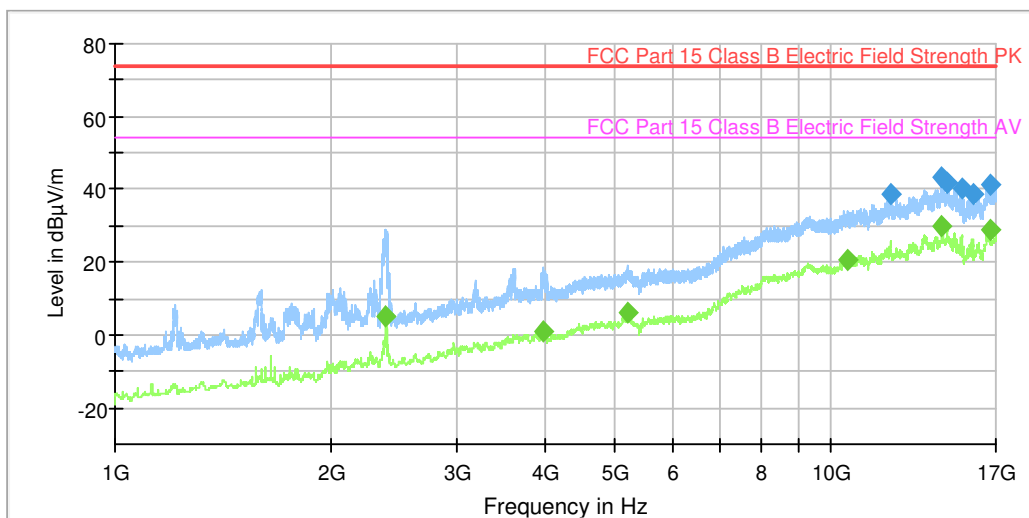
Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)
33.350000	35.38	47.13	40.00	4.62	132.0	V	73.0
54.470000	22.65	28.78	40.00	17.35	234.0	V	83.0
179.566000	21.37	27.98	40.00	18.63	184.0	H	129.0
233.678000	28.72	32.51	47.00	18.28	125.0	H	124.0
625.001000	32.18	38.51	47.00	14.82	122.0	H	72.0
992.408000	25.74	35.70	47.00	21.26	140.0	V	346.0

**Radiated Emission. CR0101HR1**

Project: 63185REM.053  
 Company: PANASONIC AUTOMOTIVE SYSTEMS EUROPE GMBH  
 Sample: S/01  
 Operation mode: OM#01  
 Description: EUT ON. Bluetooth, WiFi 2.4GHz and WiFi 5GHz OFF. USB transferring data (music input). Display showing the playlist. Power supply: 12Vdc.

**FCC Part 15 Class B**

Full Spectrum



— Preview Result 2-AVG      — Preview Result 1-PK+  
— FCC Part 15 Class B Electric Field Strength PK      — FCC Part 15 Class B Electric Field Strength AV  
◆ Final\_Result PK+      ◆ Final\_Result AVG

**Final Result**

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol
2393.600000	---	5.17	53.97	48.80	V
3959.600000	---	0.81	53.97	53.16	V
5207.200000	---	6.01	53.97	47.96	H
10529.600000	---	20.60	53.97	33.37	V
12096.800000	38.86	---	73.97	35.11	H
14270.400000	43.59	---	73.97	30.38	V
14278.000000	---	30.03	53.97	23.94	V
14524.000000	41.79	---	73.97	32.18	V
15207.200000	40.17	---	73.97	33.80	V
15772.800000	38.62	---	73.97	35.35	H
16695.600000	---	29.13	53.97	24.84	V
16703.200000	41.15	---	73.97	32.82	V

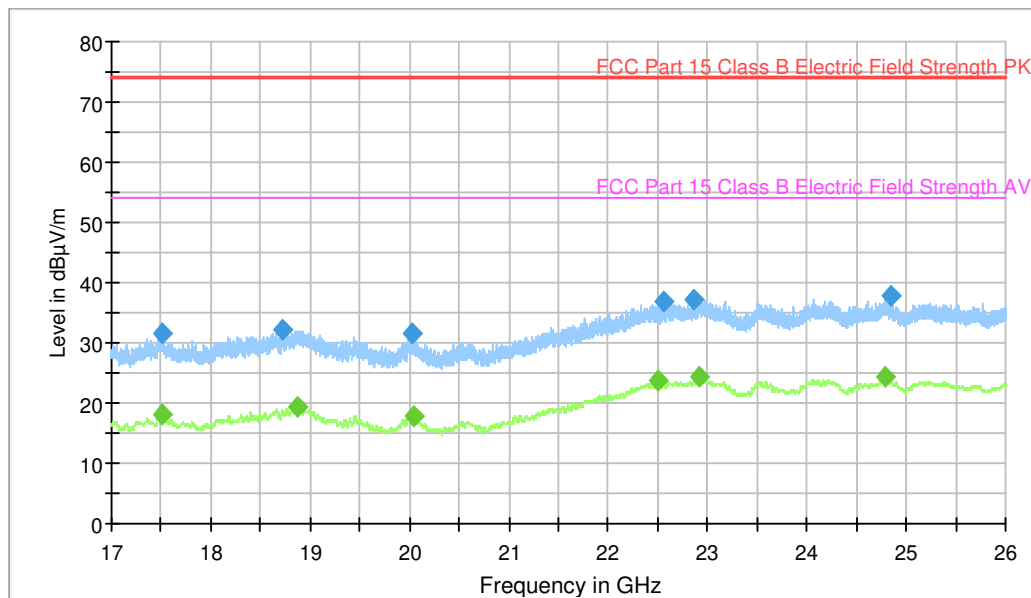


**Radiated Emission. CR0101HR2**

Project: 63185REM.053  
 Company: PANASONIC AUTOMOTIVE SYSTEMS EUROPE GMBH  
 Sample: S/01  
 Operation mode: OM#01  
 Description: EUT ON. Bluetooth, WiFi 2.4GHz and WiFi 5GHz OFF. USB transferring data (music input). Display showing the playlist. Power supply: 12Vdc.

**FCC Part 15 Class B**

Full Spectrum



**Final Result**

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol
17508.400000	---	18.00	53.97	35.97	H
17515.200000	31.43	---	73.97	42.54	H
18722.000000	32.32	---	73.97	41.65	V
18868.400000	---	19.27	53.97	34.70	V
20028.400000	31.44	---	73.97	42.53	V
20039.200000	---	17.83	53.97	36.14	H
22498.800000	---	23.63	53.97	30.34	V
22551.200000	36.86	---	73.97	37.11	V
22866.000000	37.11	---	73.97	36.86	V
22917.200000	---	24.36	53.97	29.61	V
24796.800000	---	24.31	53.97	29.66	V
24850.000000	37.93	---	73.97	36.04	V